

REMARKS/ARGUMENTS

Favorable reconsideration of this application, in light of the following discussion, is respectfully requested.

Claims 1-5 are pending in the present application.

In the outstanding Office Action, Claims 1 and 5 were rejected under 35 U.S.C. §103(a) as unpatentable over Ahmed et al. (U.S. Patent No. 6,631,127, hereinafter Ahmed) in view of Malladi et al. (U.S. Patent Publication No. 2003/0210668); Claim 3 was rejected under 35 U.S.C. §103(a) as unpatentable over Ahmed in view of Malladi, and further in view of Miyoshi et al. (U.S. Patent Publication No. 2003/0022629, hereinafter Miyoshi); and Claims 2 and 4 were objected to for depending from a rejected base claim, but were indicated as including allowable subject matter.

Applicant thanks the Examiner for the indication of allowable subject matter. However, these claims have been presently maintained in dependent form because Applicant considers the pending independent claim patentably distinguishing over the applied art.

Applicant respectfully traverses the outstanding ground of rejection because the outstanding Office Action fails to provide a *prima facie* case of obviousness by asserting prior art that, no matter how the prior art references are combined, does not teach every element of independent Claim 1.

To establish a *prima facie* case of obviousness, M.P.E.P. §2143 requires that three criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine the references teachings. Second, there must be a reasonable expectation of success. Finally, the prior art references must teach or suggest all the claim elements. The outstanding Office Action is deficient in the first and third requirements.

Claim 1 recites, *inter alia*,

sending from said receiver to said transmitter, at scheduled reporting times, an information representative of the quality of the transmission channel at said reporting times; and

sending in a same subframe the non-acknowledgement information from said receiver back to said transmitter together with information representative of the quality of the transmission channel at a time the non-acknowledgement information is sent, said time being different than said reporting times.

Ahmed and Malladi do not describe or suggest including both of the above-noted steps in a method for reporting a quality of a transmission channel between a transmitter and a receiver.

Ahmed describes that mobile station (MS) 508 continuously sends channel sound-to-noise ratio (SNR) measurement reports to the base stations (BTS) 500, typically every two milliseconds.¹ Ahmed also describes that in an alternative embodiment, the MS 508 reports SNR when it reports the non-acknowledgement message (NACK) to the BTS 500.² There is no description or suggestion in Ahmed that MS 508 reports SNR measurement reports and the NACK at a time that is different than the time when the MS 508 continuously sends channel SNR measurements. Ahmed does not describe or suggest sending SNR measurement reports and the NACK at a time that is different than the time when the MS 508 continuously sends channel SNR measurements because Ahmed discloses two different embodiments and never discloses or suggests that the two embodiments be combined.

Furthermore, the outstanding Office Action provides no motivation as to why a person of ordinary skill in the art would combine the two different embodiments disclosed in Ahmed. See *In re Rouffet*, 149 F. 3d 1350, 1357, 47 USPQ2d 1453, 1457-58 (Fed. Cir. 1998) and the requirement that “the examiner must show reasons that the skilled artisan, confronted

¹ Ahmed, col. 3, lines 64-65.

² Ahmed, col. 4, lines 53-55.

with the same problems as the inventor and with no knowledge of the claimed invention, would select the elements from the cited prior art references for combination in the manner claimed.”

Furthermore, Applicant respectfully submits that the claimed “sending in a same subframe the non-acknowledgement information from said receiver back to said transmitter together with information representative of the quality of the transmission channel at a time the non-acknowledgement information is sent, said time being different than said reporting times” is not obvious. The claimed invention has an advantage over the conventional method as explained with reference to the following example. A quality of the transmission channel may decrease after a first scheduled reporting time. The base station will remain unaware of any deterioration of the transmission condition until the next scheduled reporting time. If the quality of the transmission channel drops and subsequently recovers its original value before the next scheduled reporting time, the base station will never know of any variations in the quality of the transmission condition. The claimed invention, in addition to having scheduled reporting times, also includes sending, in a same subframe, non-acknowledgement information from the receiver back to the transmitter together with information representative of the quality of the transmission channel, at time different than the scheduled reporting time. This allows for the base station to be better informed of the quality of the transmission condition.³

Furthermore, Malladi does not cure the above-noted deficiencies of Ahmed. The outstanding Office Action only relies on Malladi to describe including the NACK and information representative of the quality of the transmission channel in a same subframe. Malladi does not describe or suggest a method including both “sending from said receiver to said transmitter, at scheduled reporting times, an information representative of the quality of

³ Specification, page 5, lines 5-16.

the transmission channel at said reporting times; and sending in a same subframe the non-acknowledgement information from said receiver back to said transmitter together with information representative of the quality of the transmission channel at a time the non-acknowledgement information is sent, said time being different than said reporting times.”

In view of the above-noted distinctions, Applicant respectfully submits that Claim 1 (and Claim 5) patentably distinguish over Ahmed and Malladi, taken alone or in proper combination.

With respect to the rejection of Claim 3 as unpatentable over Ahmed in view of Malladi, and further in view of Miyoshi, Applicant respectfully traverses the rejection. The outstanding Office Action acknowledges that the combination of Ahmed and Malladi does not disclose the claimed “sending said information representative of the quality of the transmission channel if the receiver has already sent the non-acknowledgement information a predetermined number of times at consecutive times.” The outstanding Office Action relies on Miyoshi to cure the deficiencies in Ahmed and Malladi.

However, Miyoshi only describes the operation of a base station, and not a receiver. Miyoshi describes that the base station counts the NACK signals transmitted by a receiver before an acknowledgement (ACK) signal is received.⁴ The base station in Miyoshi counts the NACK signals, compares the number to a predetermined threshold, and then rewrites the contents of a table based on the results of the comparison.⁵ Miyoshi discloses that the NACK signals are counted by the base station so that the correspondence between downlink channel quality and communication modes are rewritten based on a number of times a NACK signal is sent back from a communication terminal.⁶ Miyoshi discloses that this information is used

⁴ Miyoshi, paragraphs [0118] and [0119].

⁵ Miyoshi, Abstract.

⁶ Miyoshi, paragraph [0121].

to select a communication mode.⁷ Miyoshi does not describe or suggest that the receiver sends the information representative of the quality of the transmission channel if the receiver has already sent the non-acknowledgement information a predetermined number of times at consecutive times.

Thus, for the reasons stated above, Applicant respectfully submits that Claim 3 further patentably distinguishes over Ahmed, Malladi, and Miyoshi, taken alone or in proper combination.

Consequently, in light of the above discussion, the present application is believed to be in condition for allowance and an early and favorable action to that effect is respectfully requested.

Respectfully submitted,

OBLON, SPIVAK, McCLELLAND,
MAIER & NEUSTADT, P.C.



Eckhard H. Kuesters
Attorney of Record
Registration No. 28,870

Customer Number
22850

Tel: (703) 413-3000
Fax: (703) 413 -2220
(OSMMN 06/04)

EHK/JW/agm
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⁷ Miyoshi, paragraph [0070].